



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,997	01/08/2001	Caroline Boulenger	FR919990065	6885

32074 7590 05/22/2003

INTERNATIONAL BUSINESS MACHINES CORPORATION
DEPT. 18G
BLDG. 300-482
2070 ROUTE 52
HOPEWELL JUNCTION, NY 12533

EXAMINER

NOVACEK, CHRISTY L

ART UNIT	PAPER NUMBER
----------	--------------

2822

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/756,997

Applicant(s)

BOULENGER, CAROLINE

Examiner

Christy L. Novacek

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 is/are allowed.
- 6) ☒ Claim(s) 6-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 11 March 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the amendment filed March 11, 2003.

Response to Amendment

The amendment of claim 1 is sufficient to overcome the rejection of claims 1-5 under 35 U.S.C. 112, first paragraph as stated in the previous Office Action. Therefore, this rejection is hereby withdrawn.

The limitations added to claims 6 and 9 are sufficient to overcome the Murphy et al. (US 6,387,822) reference. Therefore, the rejections of claims 6-11 under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Murphy et al. are hereby withdrawn.

Drawings

The proposed drawing correction filed on March 11, 2003 has been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Coberly et al. (US 4,736,760).

Regarding claims 6 and 9, the admitted prior art discloses providing a semiconductor wafer (11) having a photoresist layer (16) formed thereon, and exposing, baking and developing

Art Unit: 2822

the photoresist layer to produce a patterned photoresist mask (pg. 2, ln. 3-pg. 3, ln. 6). The admitted prior art discloses removing the photoresist from the wafer (Fig. 1D), but does not disclose the process used to strip the photoresist from the wafer surface. Coberly discloses a photoresist stripping process which includes the step of treating the substrate surface with a rinse consisting essentially of heated deionized water (col. 1, ln. 49-57; col. 2, ln. 10-14). Coberly states that this process of removing unwanted materials from a substrate can be successfully accomplished by using deionized water at a temperature of 22-100°C to treat the substrate (col. 2, ln. 10-14). At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the stripping process of Coberly to remove the photoresist of the admitted prior art because the admitted prior art discloses removing the resist but does not disclose a process for doing so, and Coberly discloses a process using heated deionized water which can successfully strip a photoresist from a substrate.

Response to Arguments

Applicant's arguments with respect to claims 6-11 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

Claims 1-5 are allowed.

The primary reasons for the allowance of claims 1-5 is the inclusion therein, in combination as currently claimed, of the limitations of heating a wafer having a photoresist thereon to a temperature of 100-140°C and the without cooling the wafer, rinsing the wafer with deionized water at a temperature equal to or greater than room temperature. These limitations

Art Unit: 2822

were found in claims 1-5 and are neither disclosed nor taught by the prior art of record, alone or in combination.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christy L. Novacek whose telephone number is (703) 308-5840. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (703) 308-4905. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Art Unit: 2822

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

CLN

May 19, 2003

A handwritten signature in black ink, appearing to read 'Stephen D. Meier', with a stylized flourish extending to the right.

Stephen D. Meier
Primary Examiner